

April 16, 2004

To: Commissioner for Patents

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Subject:

Serial No. 10/780,512 02/17/04

Tai-Chun Huang et al.

NON-REPEATED AND NON-UNIFORM WIDTH SEAL RING

INFORMATION DISCLOSURE STATEMENT

Enclosed is Form PTO-1449, Information Disclosure Citation In An Application.

The following Patents and/or Publications are submitted to comply with the duty of disclosure under CFR 1.97-1.99 and 37 CFR 1.56.

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on April 4, 2004.

Stephen B. Ackerman, Reg.# 37761

Signature/Date

TSMC-03-461

Co-pending U.S. Patent Application Serial No. 09/989,837, filed on 11/20/01, and assigned to the same assignees as the present invention, "RF Seal Ring Structure," describes a seal ring having alternating widths along its length.

The following two U.S. Patents teach the use of plugs in a seal ring to prevent cracking:

- 1) U.S. Patent 6,300,223 to Chang et al., "Method of Forming Die Seal Structures Having Substrate Trenches."
- 2) U.S. Patent 5,831,330 to Chang, "Die Seal Structure for a Semiconductor Integrated Circuit."
- U.S. Patent 5,834,829 to Dinkel et al., "Energy Relieving Crack Stop," describes a redundant seal ring structure.
- U.S. Patent 6,028,347 to Sauber et al., "Semiconductor Structures and Packaging Methods," discusses trenches formed outside the seal ring at the corners.
- U.S. Patent Application Publication US 2001/0030358 A1 to Okada et al., "Semiconductor Device Package," teaches a method of seam welding of the seal ring at the corners to prevent cracking.

Stephen B. Ackerman, Reg. #37761

DATE CONCOERED

EXAMINER